QUIZ#1

Name:	: Camena Duskell Student ID: 10106922
•_45 M	inutes. No materials are allowed (<u>Number</u>) indicates weighting.
 No in 	steraction with another student is allowed during the exam. Cheating will not be tolerated.
0-4	7 m
16	bers are stored in the order in which they are printed out in Endian. (0.4)
	e are two ways to represent real numbers in computer. Which one is faster and more accurate? (0.4)
3. From	flip-flops and latches, which one are level sensitive? (0.4) Vatches
4. What	are the functions of the accumulator register in a computer arithmetic/logic unit? (1)
07	o store and send values
and the	
5. How	many pins are required for a 16K×8 RAM with common I/O and one CS input? Consider other pins as well if necessary. (1)
-1	The column select
(77)	MCM6209C is a 64K × 4 static RAM chip. How many of these are needed to form a 256K × 16 module? (1)
6. The I	VICINI6209C is a 64K × 4 static KAINI chip. How many of these are needed to form a 256K × 16 module? (1)
-1	
Deter	rmine how many bits each of the following registers can hold? (0.7)
/.Dett.	PC, DAR, IR, DR, ACCA, Address Latch/Buffer, Data Buffer
0-4	3/ 8 6 8 8 3 8 3 3 3 3 3 3 3 3 3 3 3 3 3 3
8. Assur	me that initially [PC] = C807, [A] = 09, and [C457] = 08. (0.6)
·N	C807 BB ; ADDA
0-1	C808 C4 C809 57
	At the completion of this instruction, $[PC] = 25$, $[A] = 25$, and $[C457] = 25$
\ ₀ / _E	in the competition of this instruction, [FG] =
9. Exan	nine the following 68HC11 MPU program and answer the following questions: (2) E230 B6 :LDAA
15	E231 F6
C	E232 07
	E233 B0 :SUBA E234 F6
	E235 07
	E23D 3E :WAI
	(a) How many times does the address F607 appear on the address bus?
	(b) How many times does the MPU perform a memory READ operation except WAI instruction? A WRITE operation?
	Freed write
	(c) How many times is a new word loaded into the IR?
	(d) How many times is a new word loaded into the DR?
	(e) How many times is a new word loaded into ACCA?
	(f) What are the final contents of ACCA? [A] = DF [A]
	(g) Repeat problem (b) including WAI.
40.	Assume that the following operands are initially stored in data memory: [C350] = 0A, [C351] = 01, [C352] = FF. (2)
1	C300 B6 ;LDAA [47] = 0
1	C301 C3 C302 50
	C303 B0 ;SUBA $A = 04 - 01 = 09$
	G304 G3
	C305 51 C306 27 ;BEQ
	C307 03
	C308 B7 ;STAA
	C309 C3 C30A 52
	C30B 3E ;WAI
	C30C >>

2	C807 BB C808 C4	0] 000, [11] -0,	, and [C457] = 08. (0.6)	6 9 00	00 1001	
	C000 C1	; ADDA		0 8 00	01 -001	
	C809 57		et.		,	1.00
	At the complete	ion of this instruction,	PCI = 29	,[A] =) , and [C457] =	08)
Faran	nina tha fallawina	49LIC11 MDI Lancon			, and [0137] =	
Xell	E230 B6	:LDAA	am and answer the follow	ving questions: (2)		
5	E231 F6					
	E232 07	CLIDA				
	E233 B0 E234 F6	:SUBA				
	E235 07					
	E23D 3E	:WAI				
	(a) How many	times does the addres	ss F607 appear on the add	dress bus?		
	(b) How many	times does the MPU	perform a memory REA	D operation except WAI	instruction? A WRITE	operation?
	2 re	-1	1			· P
					6- 5-	
		times is a new word le	The second secon			
	(d) How many	times is a new word le	loaded into the DR			
	(e) How many	times is a new word le	loaded into ACCA?		h-	
	(f) What are th	ne final contents of AC	OCA? [A] = \$ F 6	4-10		
	(g) Repeat pro	blem (b) including WA	AI. 3	cite		
				— [C250] OA [77517 01 [C752] E	E (2)
	C300 B6	TDAA		memory: $[C350] = 0A$, $[C350] = 0A$	$\omega_{21} = 01, [\omega_{22}] = \Gamma$	F. (2)
	G301 G3	;LDAA [A] > C	34			
	C302 50	:SUBA	A-01=09			
	C303 B0	THIS OF				
	C303 B0 C304 C3	LAJE O				
	C303 B0 C304 C3 C305 51 C306 27	;BEQ				
	C303 B0 C304 C3 C305 51 C306 27 C307 03	;BEQ				
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7					
	C303 B0 C304 C3 C305 51 C306 27 C307 03	;BEQ				
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E	;BEQ				
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52	;BEQ ;STAA			in a same	
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E C30C ??	;BEQ ;STAA ;WAI	he completion of the prog	gram? [A] =69	[c32] = F/F	
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E C30C ??	;BEQ ;STAA ;WAI pe [A] and [C352] at th	-	gram? [A] = 69	[C372] = F/F	
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E C30C ?? (a) What will be	;BEQ ;STAA ;WAI pe [A] and [C352] at the at [C351] = 0A initially	ly and repeat (a).	(00), [C352]	[C372] = F/F	e branching to 07B
	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E C30C ?? (a) What will be	;BEQ ;STAA ;WAI pe [A] and [C352] at the at [C351] = 0A initially	ly and repeat (a).	0 5	should be used to caus	e branching to 07B
0-	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E C30C ?? (a) What will be	;BEQ ;STAA ;WAI pe [A] and [C352] at the at [C351] = 0A initially	ly and repeat (a).	(00), [C352]	should be used to caus	e branching to 07B
0-	C303 B0 C304 C3 C305 51 C306 27 C307 03 C308 B7 C309 C3 C30A 52 C30B 3E C30C ?? (a) What will be	;BEQ ;STAA ;WAI pe [A] and [C352] at the at [C351] = 0A initially	ly and repeat (a).	(00), [C352]	should be used to caus	e branching to 07B